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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/651,810

08/28/2003

Avinash Jain

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23696 7590 07/23/2008  
QUALCOMM INCORPORATED  
5775 MOREHOUSE DR.  
SAN DIEGO, CA 92121

EXAMINER

WONG, BLANCHE

ART UNIT

PAPER NUMBER

2619

NOTIFICATION DATE

DELIVERY MODE

07/23/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/651,810	<b>Applicant(s)</b> JAIN ET AL.	
	<b>Examiner</b> BLANCHE WONG	<b>Art Unit</b> 2619	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 May 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-19,21-23 and 25-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-19,21-23 and 25-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 2-19,21-23,25-37 have been considered but are moot in view of the new ground(s) of rejection.

### *Drawings*

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the method of transmitting data in claim 17 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claims 16,18,21,23,25-34,36** are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a scheduling period, a scheduled duration, and a minimum scheduled duration, para. [0075], rate assignment 418, para. [0077], and scheduling timing, scheduled rate transmissions, and scheduled rate duration, para. [0079]-[0081], does not reasonably provide enablement for "... the rate assignment indicating a schedule duration and a scheduled rate applicable for the scheduled duration; ... wherein the scheduled duration is less than or equal to a

scheduling period, the scheduling period being an interval of time after transmission of the rate assignment” as recited in claim 16. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Para. [0075] defines a scheduling period SCH\_PRD: “Scheduling period SCH\_PRD refers to the interval after which a scheduler at BSC makes a scheduling decision.” Later, para. [0077] discloses scheduling decision 412 and scheduling period 414 in Fig. 4. Looking closely, Fig. 4 illustrates four scheduling decisions 412 and four scheduling periods 414. Para. [0084] discloses a scheduling duration period SCH\_PRD 508 with four times MIN\_SCH\_DUR 510 in Fig. 5. Reading para. [0077] and [0084] together, it is non-enabling whether scheduling period 414 of para. [0077] and scheduling duration period SCH\_PRD 508 of para. [0084] are one of the same thing, and how they correspond to the scheduled duration and scheduling period in the claim.

Para. [0077] discloses a rate assignment 418 in Fig. 4. However, Specification does not define a rate assignment indicating a scheduled duration and a scheduled rate. At best, para. [0079]-[0081] define scheduling timing, scheduled rate transmissions and scheduled rate durations. Even if para. [0079]-[0081] are somehow the make-up of the rate assignment, it is unclear which of the scheduling timing, scheduled rate transmissions and scheduled rate durations corresponds to the schedule duration and the scheduled rate recited in the claim. Specifically, para. [0081] discloses a ratio  $SCH\_PRD / MIN\_SCH\_DUR = n$  and SCH\_PRD is an integer multiple of MIN\_SCH\_DUR. Examiner notes n is the integer multiple. This ratio, not the integer

multiple, or the inverse  $1/n$  can be a scheduled rate. However, such an inverse is not discussed in the Specification. Therefore, it is non-enabling what are rate assignment and scheduled rate in the claim.

Furthermore, if Fig. 4 illustrates a scheduling period 414 and a rate assignment as  $R_{assign}(n)$  418, then the interval of time after transmission of the rate assignment is the next (arrow not shown) scheduling period 414 or the interval between  $R_{assign}(n)$  and  $R_{assign}(n+1)$  in Fig. 4. However, claim recites "the scheduling period being an interval of time after transmission of the rate assignment". Therefore, it is non-enabling what is the scheduling period and the scheduling period cannot be  $MIN\_SCH\_DUR$ . Even if the scheduled duration is  $MIN\_SCH\_DUR$ , then the limitation that the scheduled duration is less than or equal to a scheduling period is logically inherent because it is impossible that the scheduled duration is greater than  $SCH\_PRD$ . After all,  $SCH\_PRD$  is an integer multiple of  $MIN\_SCH\_DUR$ .

Similarly in claims 18,21,34,36.

5. **Claims 2-15,17** are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a scheduling period, a scheduled duration, and a minimum scheduled duration, para. [0075], rate assignment 418, para. [0077], and scheduling timing, scheduled rate transmissions, and scheduled rate duration, para. [0079]-[0081], does not reasonably provide enablement for "... the rate assignment indicating a scheduled duration and a scheduled rate applicable for the scheduled duration ...". The specification does not enable any person skilled in the art to which it

pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Para. [0075] defines a scheduling period SCH\_PRD: "Scheduling period SCH\_PRD refers to the interval after which a scheduler at BSC makes a scheduling decision." Later, para. [0077] discloses scheduling decision 412 and scheduling period 414 in Fig. 4. Looking closely, Fig. 4 illustrates four scheduling decisions 412 and four scheduling periods 414. Para. [0084] discloses a scheduling duration period SCH\_PRD 508 with four times MIN\_SCH\_DUR 510 in Fig. 5. Reading para. [0077] and [0084] together, it is non-enabling whether scheduling period 414 of para. [0077] and scheduling duration period SCH\_PRD 508 of para. [0084] are one of the same thing, and how they correspond to the scheduled duration in the claim.

Para. [0077] discloses a rate assignment 418 in Fig. 4. However, Specification does not define a rate assignment indicating a scheduled duration and a scheduled rate. At best, para. [0079]-[0081] define scheduling timing, scheduled rate transmissions and scheduled rate durations. Even if para. [0079]-[0081] are somehow the make-up of the rate assignment, it is unclear which of the scheduling timing, scheduled rate transmissions and scheduled rate durations corresponds to the schedule duration and the scheduled rate recited in the claim. Specifically, para. [0081] discloses a ratio  $SCH\_PRD / MIN\_SCH\_DUR = n$  and SCH\_PRD is an integer multiple of MIN\_SCH\_DUR. Examiner notes n is the integer multiple. This ratio, not the integer multiple, or the inverse  $1/n$  can be a scheduled rate. However, such an inverse is not

discussed in the Specification. Therefore, it is non-enabling what are rate assignment and scheduled rate in the claim.

Similarly in claims 19,22,35,37.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claim 17** is rejected under 35 U.S.C. 102(e) as being anticipated by Pankaj (U.S. Pat No. 6,807,426).

With regard to claim 17, Pankaj discloses

transmitting a request (**requests for data transmission, col. 5, line 37**) for a rate (**"a data request specifies the data rate at which the data is to be sent, the length of the data packet transmitted..."**, col. 5, lines 29-31) if data arrives in a buffer, data in the buffer exceeds a buffer depth (**based upon the remote station's associated instantaneous rate for receiving data, col. 6, lines 19-20**)(**See A/so data queue for transmission, col. 6, line 32**) (**store and forward**), and sufficient power (**quality**) exists to transmit at the rate requested (**the data rate based on the quality of the channel, col. 5, lines 32-33**);

receiving a rate assignment responsive to the request for the rate (**a channel is established**), the rate assignment indicating a scheduled duration and a scheduled rate applicable for the scheduled duration (**a channel is defined as the set of communication links ... within a given frequency assignment, col. 5, lines 22-25**) (**See A/so Forward Link and Reverse Link, col. 5, lines 25-26**); and

transmitting data (**data is transmitted/transmitting**), the transmitting responsive to the rate assignment, wherein the data is transmitted for the scheduled duration at the scheduled rate (**"The channel scheduler 812 schedules the variable rate transmissions on the forward link. ... The channel scheduler 812 preferably schedules data transmissions to achieve the system goal of maximum data throughput ..."**, col. 9, lines 11-18).

*Allowable Subject Matter*



8. The following is a statement of reasons for the indication of allowable subject matter:

With regard to claim 16, the prior art of record fails to anticipate or make obvious a method of scheduling comprising: "receiving a rate request *during a scheduling period [or scheduled duration]*; transmitting a rate assignment responsive to the rate request, the rate assignment indicating a *scheduling period [or scheduled duration]* and a scheduled rate, *wherein the scheduled rate determines how many minimum scheduled durations are in the scheduling period [or scheduled duration]*; receiving data *during the minimum scheduled duration*; wherein *each of the minimum scheduled durations* is less than or equal to the *scheduling period [or scheduled duration]*, the scheduling period [or scheduled duration] being an interval of time after the transmission of the rate assignment *and before the transmission of the next rate assignment*" (with emphasis).

### **Conclusion**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BLANCHE WONG whose telephone number is (571)272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Art Unit: 2619

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/Blanche Wong/  
Examiner, Art Unit 2619  
July 16, 2008

/Edan Orgad/  
Supervisory Patent Examiner, Art Unit 2619